

REMARKS

Claims 1-27 are pending. In the Office Action, Claims 1-8, 18-19 are rejected and Claims 9-17 and 20-27 are withdrawn. Claims 1-8, 18-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by JP 07-054132 (hereinafter JP '132) or, in the alternative, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the same reference.

Claim 1 is amended herein to more particularly point out that the present invention is not an ITO but rather a transparent oxide electrode film which does not contain tin. Support for this amendment is found in the present specification at page 11, last three lines, stating, "there are several patent applications relating to film materials based on ITO to which titanium is added. However, these are clearly distinguishable from the film of the present invention in that they contain tin." No new matter is added via this amendment.

Applicants acknowledge that the Examiner has made the Restriction Requirement final. However, Applicant submits that at least the manufacturing method as in Claim 17 should be included in the present application.

According to the Examiner, JP '132 discloses all of the features of the claims of the present invention. Alternatively, the Examiner states that in the event that minor modifications are necessary to meet the claimed limitations, such as selection of a particular In/Ti ratio, such modifications are within the purview of one skilled in the art.

Applicant traverses this rejection and contests the rationale for the rejection.

As is clear from the description of preferred embodiments of the present invention and Examples, the present invention relates to a transparent oxide electrode film which does not contain tin. This transparent oxide electrode film has no relation to the ITO film of JP '132

which contains tin. Therefore, reliance on JP '132 is misplaced.

When the ITO film is used as an electrode on the light incident side of the photo detection elements, the rate of the infrared light entering in the layer of photo detection materials is low and the sensibility consequently becomes wrong (see page 14, line 7 to page 15, line 1 of the present specification). Instead of improving the ITO film, the inventors reviewed and studied the composition of the oxide films having indium oxide as its main component, and have surprisingly found a transparent oxide electrode film which has excellent transmittance not only in the visible light region but also in the infrared light region, and low resistance by adding a given amount of titanium to the indium oxide.

On the other hand, JP '132 relates to an ITO sintered body and a sputtering target for making an ITO film. This ITO sintered body was invented to prevent from generating of the nodule by reduction of a target front face, the crack of a target, and the scattering of breakage particle objects from a target (See paragraph [0008]). For this reason, as shown in Paragraphs [0009] and [0011], one or more elements selected from zinc, copper, antimony, titanium, thulium, lithium and magnesium are added to the ITO, and so the high sintered density of the ITO sintered body can be achieved. The additive amount of these elements is controlled in terms of the high sintered density. The addition of titanium to the ITO is adopted to improve the sintered density of the ITO, but it does not contribute the improvement of transmittance in the infrared light region of the ITO. Nor is the improvement merely obtainable through routine experimentation as the Examiner has suggested.

Additionally, JP '132 is directed to non-analogous art, i.e., an ITO film. Applying the analogous art test of *In re Oetiker*, 977 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986), to be analogous a reference must either be in the field of applicant's endeavor or, if not, then be

reasonably pertinent to the particular problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. The Office erroneously concludes that inasmuch as JP '132 is directed to electrode film, it is in the field of the applicant's endeavor and reasonably pertinent to the problem with which the applicant is concerned.

Applicants respectfully disagree.

JP '132 is neither in the same field as the Applicant's endeavor nor is the reference reasonably pertinent to the problem of the present invention. The field of the present invention is a transparent oxide electrode film with low resistance and high transmittance, and a transparent conductive base material, solar cell and photo detection element using this transparent oxide electrode film. Inasmuch as ITO films have LOW TRANSMITTANCE, they cannot be of the same field as the present invention. Moreover, a person having ordinary skill in the art would not reasonably have expected to solve the problem of a high transmittance film without tin using an ITO film, containing tin. Nor would one skilled in the art at the time of the invention faced with the problem of the present invention have looked to JP '132 for a solution to the present problem. Therefore, Applicants submit that JP '132 is non-analogous art.

Applicants submit that obvious cannot be predicated on what is unknown. *In re Sporman*, 363 F.2d 44,448 (C.C.P.A. 1966). Inasmuch as JP '132 does not teach or suggest a transparent oxide electrode film having indium oxide containing titanium as its main component, where tin is absent, and where indium in the indium oxide is substituted with titanium at a titanium/indium atomic ratio between 0.003 and 0.120, the indium oxide is crystalline, and the resistivity of the transparent oxide electrode film is up to $5.7 \times 10^{-4} \Omega\text{cm}$, this reference cannot render the present invention obvious.

As described above, the present invention is quite different from the ITO sintered body and target of JP '132 in category. Moreover, JP '132 does not disclose nor suggest the problems to be solved by the present invention and the means of the present invention for solving the above problems. Therefore, the present invention is not obvious from JP '132.

Based on the above arguments distinguishing the present invention and that of JP '132, it is respectfully requested that the rejection be withdrawn.

While Applicants traverse the rejections, to advance prosecution, Applicants have Amended Claim 1 to more particularly point out the absence of tin. This amendment makes clear that the present invention is quite different from the ITO film based on the ITO sintered body of JP '132.

In consideration of the differences between the present invention and the JP '132 Patent, as explained above, it is submitted that the claims define subject matter that is patentable over the reference cited, and withdrawal of the rejections is in order and is respectfully requested.

The above amendment and remarks establish the patentable nature of all the claims examined on the merits in the application. Notice of Allowance and passage to issue is, therefore, respectfully solicited.

Any fee due with this paper may be charged to Deposit Account 50-1290.

Respectfully submitted,

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